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Long-term government bond yields and macroeconomic fundamentals: Evidence for Greece during the crisis-era

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ABSTRACT

This paper studies the influence of macroeconomic fundamentals and the underlying 10 years Greek government bonds. We examine for the period between Q12001 up to end to Q42012, applying four major macroeconomic variables such as Debt to GDP ratio, deficit, inflation and unemployment. We found that, overall, deficit, inflation and unemployment among others, play a more significant role as determinants of the 10-year Greek bond yield, while isolating the period during the crisis macroeconomic factors strengthen their affect to the Greek Debt market.

1. Introduction

The recent crisis of the Sub-primes caused a solvency crisis on investors risk perception on the viability of Euro zone countries. As a result, the international capital markets were the driven force since politicians were taking under consideration their reaction before any policy-decision taken. Furthermore, for the first time in the history, a country, into a common currency, applies for an international

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bail-out and accepts fiscal austerity measures, which demand currency depreciation in order to be effective and successive. Under this spectrum it is crucial to examine if the macro fundamentals were the main determinants of the Greek bond yields, during the pre- and post-crisis era.

The first upward trend in Greek spreads began to appear in 2008 as international markets were in upheaval. Thus, from 35 basis points (bps) in that period, the Greek government spreads amounted to 230 bps in December of 2008, while in March of 2009 ranged to 300 bps. The first signs of the crisis in the Greek bond's market are placed on 10 October of 2009 following the announcement of the Greek Government for an upward revision of it is estimated budget deficit for the year 2009 initially from 7% to 12%, and finally at 15.6% of GDP. Fitch rating agency in December of that year downgraded the Greek economy from the category A− to BBB+. It was the first time in a period of 10 years that the Greek economy was downgraded.

Existing Literature addresses contradicting evidences regarding the main drivers of government bond yields. On the one hand, many authors argue that a country's macroeconomic fundamentals such as Debt to GDP ratio, deficit, current account deficit, and unemployment are the primary determinants of government bond yields (Bernoth et al., 2004; Pagano and von Thadden, 2004; Georgoutsos and Migiakis, 2012; Sosvilla-Rivero and Morales-Zumaquero, 2012). On the contrary, many authors (Schuknecht et al., 2010; Mody, 2009; Longstaff et al., 2011) find empirical evidences against country specific macroeconomic fundamentals and argue that common factors such as a generalised risk aversion factor affects government bond yields. In conjunction with the above, there is a class of papers that attribute the overwhelming increase of sovereign spreads of the Southern countries in EU not solely to their macroeconomic fundamentals but to a time factor which drives bond's spreads up and it is related to the weakness of EU countries to conduct independent monetary policy (DeGrauwe and Ji, 2013).

The rest of the paper is organised as follows: Section 2 includes the data and the empirical methodology used. In Section 3 are presented the empirical results and Section 4 concludes.

2. Data and empirical methodology

The sample consists of quarterly data on sovereign bond yields and their fundamental determinants for the period 2001–2012 for the Greek economy. The data span represents the evolution of the yield of the Greek bond market by the entrance of Greece to Euro through the decade, extended through the period of the tremendous crisis. Estimations have been splitted up into 2 different periods. The first period included the entire data span (1Q2001–4Q2012) – Euro Era and the second period is concentrated only on the abnormal period of the crisis (2Q2009–4Q2012).

Figs. 1 and 2 show the dynamics of sovereign bond yields and the most significant determinants as have been examined by the existing literature and have been applied to this existing work. Fig. 1 clearly, shows the abnormalities in Greek bond yields, and Fig. 2, defines that the General Governments Deficit and Growth found to be the most closed to their theoretical distribution. More precisely,

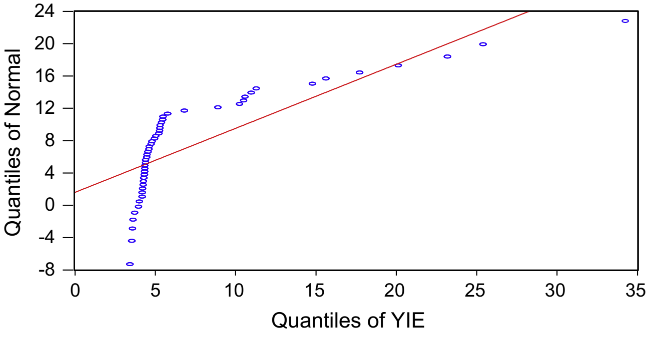

Fig. 1. The figure plots Quantile–Quantile distribution of the Greek Bond Yields, for January 2001 to December 2012.